

Section 8.0
Toxicity Evaluation Report

Long Beach Generating Station NPDES Monitoring Data 2001

D) BIOASSAY								
Constituent	Maximum Concentration				Units	Concentration Limit	30 Day Avg	Frequency of Analysis
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr		(Daily Max.)	Limit	
Date			08/02/2001	11/07/2001	Tuc			Quarterly

Chronic Kelp Bioassay

Germination (TUc)					Tuc			Quarterly
Germ Tube Length (TUc)					Tuc			Quarterly

Chronic Abalone Bioassay

Larval Development (TUc)			1.0	1	Tuc			Quarterly
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Cultured Abalone

Larval Development (TUc)					Tuc			Quarterly
Chlorination					Tuc			Quarterly

Chronic Silverslides Assay

Larvae Survival (TUc)					Tuc			Quarterly
Larvae Growth (TUc)					Tuc			Quarterly

Long Beach Generating Station - NPDES Monitoring Data Summary 2002

BIOASSAY

Constituent	Maximum Concentration				Units	Concentration	30	Frequency of Analysis
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr		Limit (Daily Max.)	Day Avg Limit	
Date	02/04/1998	05/12/1998	08/12/1998	11/04/1998	Tuc			Quarterly

Chronic Kelp Bioassay Receiving Water

Germination (TUc)			1		Tuc			Quarterly
Germ Tube Length (TUc)			1		Tuc			Quarterly

Chronic Kelp Bioassay Effluent

Germination (TUc)			1		Tuc			Quarterly
Germ Tube Length (TUc)			1		Tuc			Quarterly

Chronic Abalone Bioassay Receiving Water

Larval Development (TUc)		1	1	1	Tuc			Quarterly
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Chronic Abalone Bioassay Effluent

Larval Development (TUc)	4	1	1	1	Tuc			Quarterly
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Cultured Abalone

Larval Development (TUc)					Tuc			Quarterly
Chlorination					Tuc			Quarterly

Chronic Silverslides Assay

Larvae Survival (Tuc) Eff			1		Tuc			Quarterly
Larvae Growth (Tuc) Eff			1		Tuc			Quarterly

Chronic Silverslides Assay Receiving Waters

Larvae Survival (Tuc) RW			1		Tuc			Quarterly
Larvae Growth (Tuc) RW			1		Tuc			Quarterly

Long Beach Generating Station - NPDES Monitoring Data Summary 2003

E) BIOASSAY

Constituent	Maximum Concentration				Units	Concentration Limit (Daily Max.)	30 Day Avg Limit	Frequency of Analysis
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr				
Date	2/10/03	5/12/03	8/11/03	11/10/03	Tuc			Quarterly

Chronic Kelp Bioassay Receiving Water

Germination (TUc)					Tuc			Quarterly
Germ Tube Length (TUc)					Tuc			Quarterly

Chronic Kelp Bioassay Effluent

Germination (TUc)			1.0		Tuc			Quarterly
Germ Tube Length (TUc)			1.0		Tuc			Quarterly

Chronic Abalone Bioassay Receiving Water

Larval Development (TUc)	1.0	1.0	1.0	1.0	Tuc			Quarterly
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Chronic Abalone Bioassay Effluent

Larval Development (TUc)	1.0	1.0	1.0	1.0	Tuc			Quarterly
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Cultured Abalone

Larval Development (TUc)					Tuc			Quarterly
Chlorination					Tuc			Quarterly

Chronic Silverslides Assay

Larvae Survival (Tuc)			1.0		Tuc			Quarterly
Larvae Growth (Tuc)			1.0		Tuc			Quarterly

Chronic Silverslides Assay Receiving Waters

Larvae Survival (Tuc)			1.0		Tuc			Quarterly
Larvae Growth (Tuc)			1.0		Tuc			Quarterly

Chronic Kelp Bioassay Receiving Waters

Germination (TUc)			1.0		Tuc			Quarterly
Germ Tube Length (TUc)			1.0		Tuc			Quarterly

Long Beach Generating Station - NPDES Monitoring Data Summary 2004

G) BIOASSAY

Constituent	Maximum Concentration				Units	Concentration Limit (Daily Max.)	30 Day Avg Limit	Frequency of Analysis
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr				
Date	2/8/00	5/9/00	8/16/00	11/10/00	Tuc			Quarterly

Chronic Kelp Bioassay Receiving Water

Germination (TUc)			1.0		Tuc			Quarterly
Germ Tube Length (TUc)			1		Tuc			Quarterly

Chronic Kelp Bioassay Effluent

Germination (TUc)			1.0		Tuc			Quarterly
Germ Tube Length (TUc)			1.0		Tuc			Quarterly

Chronic Abalone Bioassay Receiving Water

Larval Development (TUc)	1.0		1.0	1.0	Tuc			Quarterly
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Chronic Abalone Bioassay Effluent

Larval Development (TUc)	1.0	1.0		1.0	Tuc			Quarterly
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Cultured Abalone

Larval Development (TUc)					Tuc			Quarterly
Chlorination					Tuc			Quarterly

Chronic Silverslides Assay

Larvae Survival (TUc)			1.0		Tuc			Quarterly
Larvae Growth (TUc)			1.0		Tuc			Quarterly

Chronic Silverslides Assay Receiving Waters

Larvae Survival (TUc)			1.0		Tuc			Quarterly
Larvae Growth (TUc)			1.0		Tuc			Quarterly

Chronic Kelp Bioassay Receiving Waters

Germination (TUc)			1.0		Tuc			Quarterly
Germ Tube Length (TUc)			1.0		Tuc			Quarterly

Section 9.0
Regional Water Quality Control Board
And
Related Correspondence

Long Beach Generation LLC
2665 W. Seaside Blvd.
Long Beach, CA 90802

Phone: 310.615.6342
FAX: 310.615.6060

January 7, 2005

Mr. John Bishop, P.E.
Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
Attn: Technical Support Unit
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request for Alternative Discharge Method at Long Beach Generating Station

Dear Mr. Bishop,

Long Beach Generation LLC ("LBG"), the owner of the Long Beach Generating Station ("LBGS"), recently ceased operation of the existing power generating equipment at the LBGS facility and terminated the Facility Permit to Operate with the South Coast Air Quality Management District, effective January 1, 2005. The shutdown notification to the California Independent System Operator is attached to document the shutdown. While the shutdown of the power generation components of the facility will eliminate some of the facility wastewater streams, several wastewater discharges authorized by the existing National Pollutant Discharge Elimination System (NPDES) Permit Number CA0001171, Order Number 01-079, will continue.

In light of this change at the facility, LBG is making a formal request to modify the permitted method of wastewater discharge at the facility. Specifically, LBG is requesting to change how pumped groundwater and low volume waste will be discharged from the facility. This change will have the positive impact of significantly reducing or eliminating the need to circulate seawater from the once-through cooling water system and will significantly reduce overall discharged volume. Due to the positive attributes of this proposal, LBG requests expedited review and approval.

Currently, this facility is permitted to discharge once-through cooling water, low-volume wastewater, groundwater from dewatering, as well as various other wastewater streams into once-through cooling water outfall under the existing NPDES permit. Currently pumped groundwater is routed to the retention basin, which is then commingled with the once-through cooling water system and then discharged through outfall 001.

The Los Angeles Regional Water Quality Control Board (LARWQCB) acknowledged within the permit (Item 4, *Description of Facility Operations*) that waters accumulating within the onsite retention basin intermittently bypass the cooling tunnel and discharge directly to outfall 001. This outfall is located in Back Channel within the Long Beach



Mr. John Bishop, P.E.
Long Beach Generation LLC – Request for Alternative Discharge Method
January 7, 2005
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Harbor. Historically this has only occurred temporarily, normally during maintenance of the retention basin or the once-through cooling system.

Due to the facility changes noted above, LBG requests that the primary method of groundwater discharge and low volume waste be first commingled in the retention basin and then directly discharged to outfall 001 without combining with once-through cooling water within the cooling tunnel.

LBG reviewed the analytical results of quarterly sampling events conducted under the monitoring requirements of the current NPDES permit. In addition, data collected to fulfill the requirements of the Interim Monitoring Program as mandated under Section 13267 of the California Water Code were also included in the evaluation. All analytical data was from combined waters within the retention basin and was acquired during 2002 and 2003.

Analytical results from the sampling events at the retention basin were compared, to serve as a conservative comparison, to the NPDES monthly average discharge limitations as defined in the current permit that are applicable to outfall 001. None of the analytical results from the retention basin exceeded the monthly average discharge limitations with the exception of copper.

One analytical result, from a grab sample collected from the retention basin in the fourth quarter of 2002, did exceed the stated monthly average discharge limit for copper (6.2 micrograms per liter [$\mu\text{g/L}$]). This particular sample result was 21.4 $\mu\text{g/L}$. The exact source of the elevated copper concentration observed during this one event was not identified, however, there have been historical elevated background copper levels in the adjacent Long Beach Harbor that likely affected the groundwater being pumped into the retention basin. All other results for copper within the retention basin were below the monthly average discharge limitation.

When the power generation equipment is not operating, the majority of the water going to the retention basin is pumped groundwater. The evaluation included review of groundwater data acquired by Southern California Edison, to satisfy the requirements of their Water Quality Monitoring Program. The groundwater data reviewed were the quarterly submittals to DTSC for sampling events that occurred between 2001 and 2003. The evaluation did not provide any additional information that was contradictory or inconsistent with the evaluation of analytical results from the retention basin.

It is the opinion of LBG that this requested change will have beneficial effects associated with reduced once-through cooling water use and will not increase the probability of causing adverse effects on receiving waters caused by the discharge. Though the Long Beach Generating Station has historically experienced minimal impingement and

Mr. John Bishop, P.E.
Long Beach Generation LLC – Request for Alternative Discharge Method
January 7, 2005
Page 3 of 3

entrainment of marine life, the reduction in operation associated with the once-through cooling system may further reduce the probability of incurring any chance events.

If you have any questions please call Mr. Tim Hemig at (760) 268-4037.

Sincerely,
Long Beach Generation LLC
By: NRG El Segundo Operations Inc.
It's Authorized Agent

By: 
Audun Aaberg
Regional Plants Manager

cc: Tim Hemig, Alex Sanchez

4600 Carlsbad Blvd.
Carlsbad, CA 92008

Main: (760) 268-4000
Fax: (760) 268-4019

Long Beach Generation LLC

September 29, 2005

The Port of Long Beach
Douglas Thiessen, P.E.
Chief Harbor Engineer
925 Harbor Plaza
Long Beach, California 90802

**SUBJECT: REQUEST TO SUBMIT APPLICATION FOR INDUSTRIAL
WASTEWATER DISCHARGE PERMIT
LONG BEACH GENERATING STATION**

Dear Mr. Thiessen,

Long Beach Generation LLC ("LBG") is in the process of requesting approval to submit an application for a Significant Industrial User ("SIU") permit from the City of Los Angeles, Bureau of Sanitation for the Long Beach Generating Station ("LBGS"). LBGS currently utilizes the sanitary sewer system for typical low flow domestic type discharges. LBG understands that sanitary sewer waters are conveyed via a Port of Long Beach (POLB) collection system to a lifting station on Terminal Island, which is then conveyed to the City of Los Angeles collection system and sanitation treatment facility. LBG is requesting preliminary determination as to the feasibility of handling the wastewater discharge described in this correspondence to support a proposed SIU permit application.

The LBGS currently discharges low volume waste under an Individual Waste Water Discharge Permit issued by the Los Angeles Water Quality Control Board (the LARWQCB) from LBGS located at 2665 West Seaside Boulevard, Long Beach, California. The low volume waste streams consist of approximately 1.94 million gallons per day (MGD) of dewatering groundwater, intermittent storm water, and 1.27 MGD of miscellaneous sump drains. Recent analytical sampling of wastewater indicates that the salinity of the water is brackish (22,600 to 24,300 parts per million), and Biological Oxygen Demand (BOD) ranges from non-detect (<0.5 micrograms per liter ($\mu\text{g/L}$)) to 1.5 $\mu\text{g/L}$. The majority of these low volume wastes are passed through an oil water separator, and held in a retention basin until the water is combined with once through cooling water from the power generation facility and discharged out the cooling water outfall into the Back Channel in the Port of Long Beach harbor.

LBG is exploring the SIU permit option for discharge of low volume wastewater at the request of the LARWQCB to investigate the feasibility of discharging the low volume waste stream to the sanitary sewer system as an alternate to an Individual Industrial NPDES permit. In accordance with the City of Los Angeles Department of Public Works (LADPW), Bureau of Sanitation, "Guidance for Discharging Industrial Wastewater to the Sewer" document, Long Beach Generation LLC would like to submit a proposal to be considered a SIU.

If the Bureau of Sanitation approves conveyance through their system and treatment of the described wastewater, and the POLB does not object, LBG will submit an application for a SIU

Long Beach Power LLC

permit. If the POLB cannot proceed with accepting LBG request please notify us as soon as possible.

If you have any questions please contact Mr. Marc Kodis at (760) 268-4019.

Sincerely,



Keith Richards
Vice President,
Long Beach Generation LLC

cc: Tim Hernig (Long Beach Generation)
Marc Kodis (Long Beach Generation)
Scott Seipel (Shaw Environmental, Inc.)

4600 Carlsbad Blvd.
Carlsbad, CA 92008

Main: (760) 268-4000
Fax: (760) 268-4019

Long Beach Generation LLC

September 29, 2005

City of Los Angeles
Department of Public Works
Bureau of Engineering
ATTN: Sewer Section
201 North Figueroa Street, 3rd Floor
Los Angeles, CA 90012

**SUBJECT: REQUEST FOR INDUSTRIAL WASTEWATER
DISCHARGE PERMIT
LONG BEACH GENERATING STATION**

Mr. Pueblos,

Long Beach Generation LLC ("LBG") is requesting approval to submit an application for a Significant Industrial User ("SIU") permit from the City of Los Angeles, Bureau of Sanitation for the discharge of groundwater and low volume waste for the Long Beach Generating Station ("LBGS") located on Terminal Island at 2665 West Seaside Boulevard, Long Beach, California. LBGS currently utilizes the sanitary sewer system on Terminal Island for collection of typical low flow domestic type discharges. Long Beach Generation LLC understands that sanitary sewer waters are conveyed via a Port of Long Beach (POLB) collection system to a lifting station on Terminal Island, which is then conveyed to the City of Los Angeles collection system and sanitation treatment facility. LBG is also requesting concurrence from the POLB for conveyance of the wastewater discharge described in this correspondence.

The LBGS currently discharges low volume waste under an Individual Waste Water Discharge Permit issued by the Los Angeles Water Quality Control Board (the LARWQCB) from the LBGS located at 2665 West Seaside Boulevard, Long Beach, California. The low volume waste streams consist of approximately 1.94 million gallons per day (MGD) of dewatering groundwater, intermittent storm water, and 1.27 MGD of miscellaneous sump drains. Recent analytical sampling of wastewater indicates that the salinity of the water is brackish (22,600 to 24,300 parts per million), and Biological Oxygen Demand (BOD) ranges from non-detect (<0.5 micrograms per liter ($\mu\text{g/L}$)) to 1.5 $\mu\text{g/L}$. The majority of these low volume wastes are passed through an oil water separator, and held in a retention basin until the water is combined with once through cooling water from the power generation facility and discharged out the cooling water outfall into the Back Channel in the Port of Long Beach harbor.

LBG is requesting permission to submit a permit application as a SIU for discharge of low volume waste water because the LARWQCB has requested that LBG investigate the feasibility of discharging the low volume waste stream to the sewer as an alternative to an Individual Industrial NPDES permit. In accordance with the City of Los Angeles Department of Public Works (LADPW), Bureau of Sanitation, "Guidance for Discharging Industrial Wastewater to the Sewer" document, LBG would like to submit an application for a SIU permit.

Long Beach Power LLC

If the Bureau of Sanitation will consider issuing a permit for the flow rates stated above, and the POLB does not object, LBG would proceed by contacting Mr. David Cheung for clearance to submit a permit application. If the Bureau of Sanitation cannot accommodate this request, please notify us as soon as possible.

If you have any questions please contact Mr. Marc Kodis at (760) 268-4019.

Sincerely,



Keith Richards
Vice President,
Long Beach Generation LLC

cc: Tim Hemig (Long Beach Generation)
Marc Kodis (Long Beach Generation)
Scott Seipel (Shaw Environmental, Inc.)

SEWER AVAILABILITY

Date: 9/30/05

1. Name of Applicant: 1 Shaw Environmental, Inc.
1 3452 E. Foothill Blvd. 9th floor, Pasadena, CA 91107
Tel No. 626-304-1534 Jeremy Kriger
Fax No. 626-535-0876

2. Location/Job Address: 2665 West SEASIDE BLVD.,
LONG BEACH, CA.

3. Building Permit Application No.: — (DEWATERING GROUNDWATER)

4. Proposed Sewer Connection Location: (to be determined at site)

5. SIMMS MH Number From: _____ To: _____
From: _____ To: _____
From: _____ To: _____

6. Sewer Map No. 620 07 xxx Wye Map No. _____

7. Size of Main Sewer Line in the Street: 15" ϕ ? VERIFY

8. Type of Building Use: (DEWATERING GROUNDWATER)

9. Project Description (i.e. No. of Dwelling Units, Gross Sq. Ft. and Use.....etc.)
Approx. discharge

10. Proposed Estimated Sewer Flow (New Construction): 1,270,000 (GPD) or 1.965 (CFS)
Total Net Additional Sewer Flow (Remodel/Replacement): _____ (GPD) or _____ (CFS)

11. Sewer Availability: Capacity Available
 Capacity Not Available See Remarks

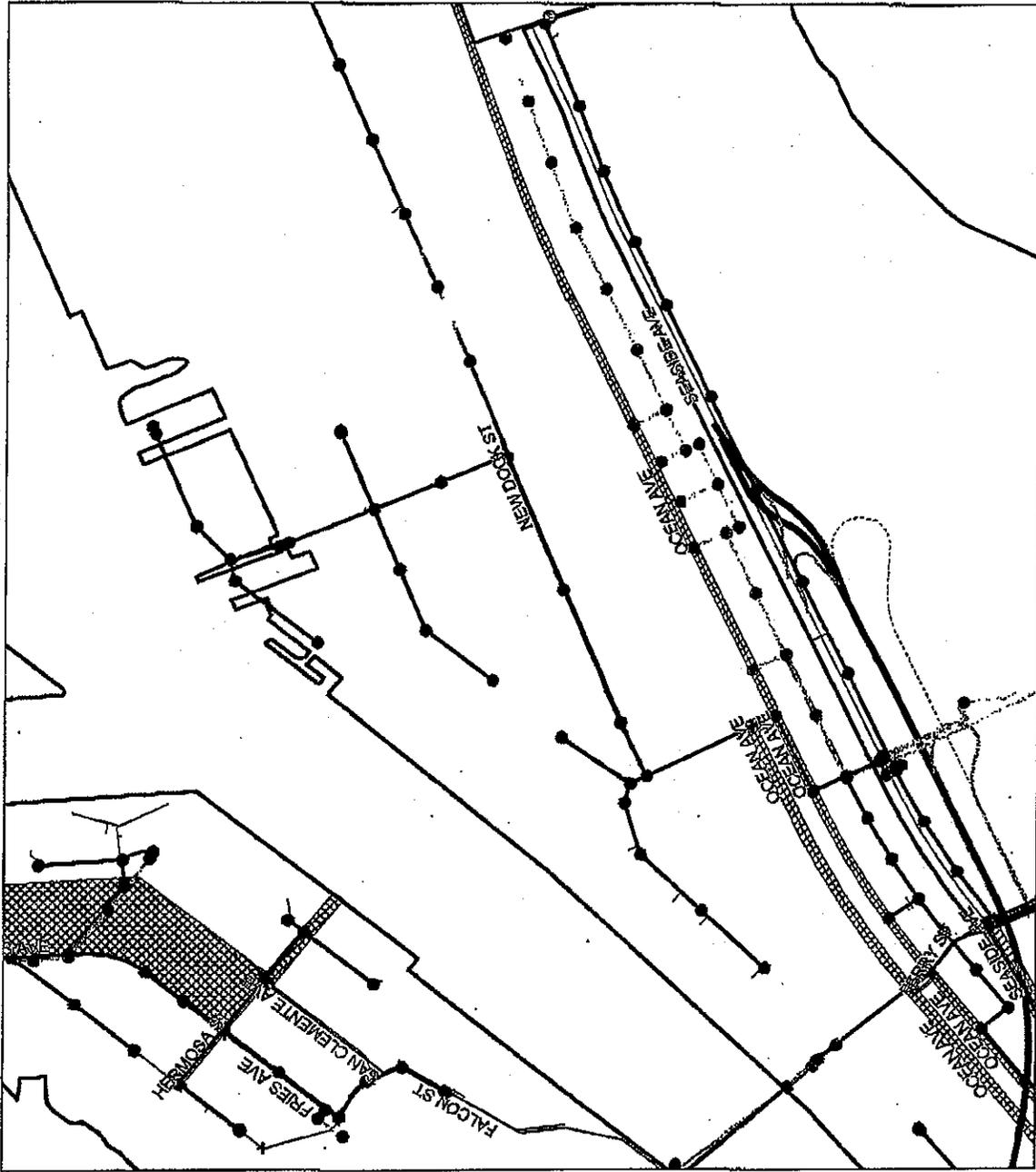
12. Remarks: SFC due: \$ _____ Cost: \$3.26/gpd.
CONTACT: Mr. DAVID CHEUNG
(213) 473-8051 ty.
(213) 473-8060 fax

Requested By: [Signature]
Central District
Bureau of Engineering
(213) 482-7030
(213) 482-7007 Fax
201 N. Figueroa St., 3rd Floor, #23
Los Angeles, CA 90012

Sewer Availability Checked By: _____
Name: _____
Bureau of Sanitation
(323) 342-6252 Fax (323) 342-6210
2714 Media Center Drive
Los Angeles, CA 90065

Notes:
 BOS: Applicant needs a reply as soon as possible. Thanks!
 BOE: Send a Will Serve Letter to applicant upon receipt of BOS reply.
 THIS SEWER AVAILABILITY IS VALID FOR ONLY 180 DAYS FROM THE DATE OF APPROVAL BY BOS.
(213) 342-6207 BEHAL TAMIMI
Mark Ryan:

NavigateLA



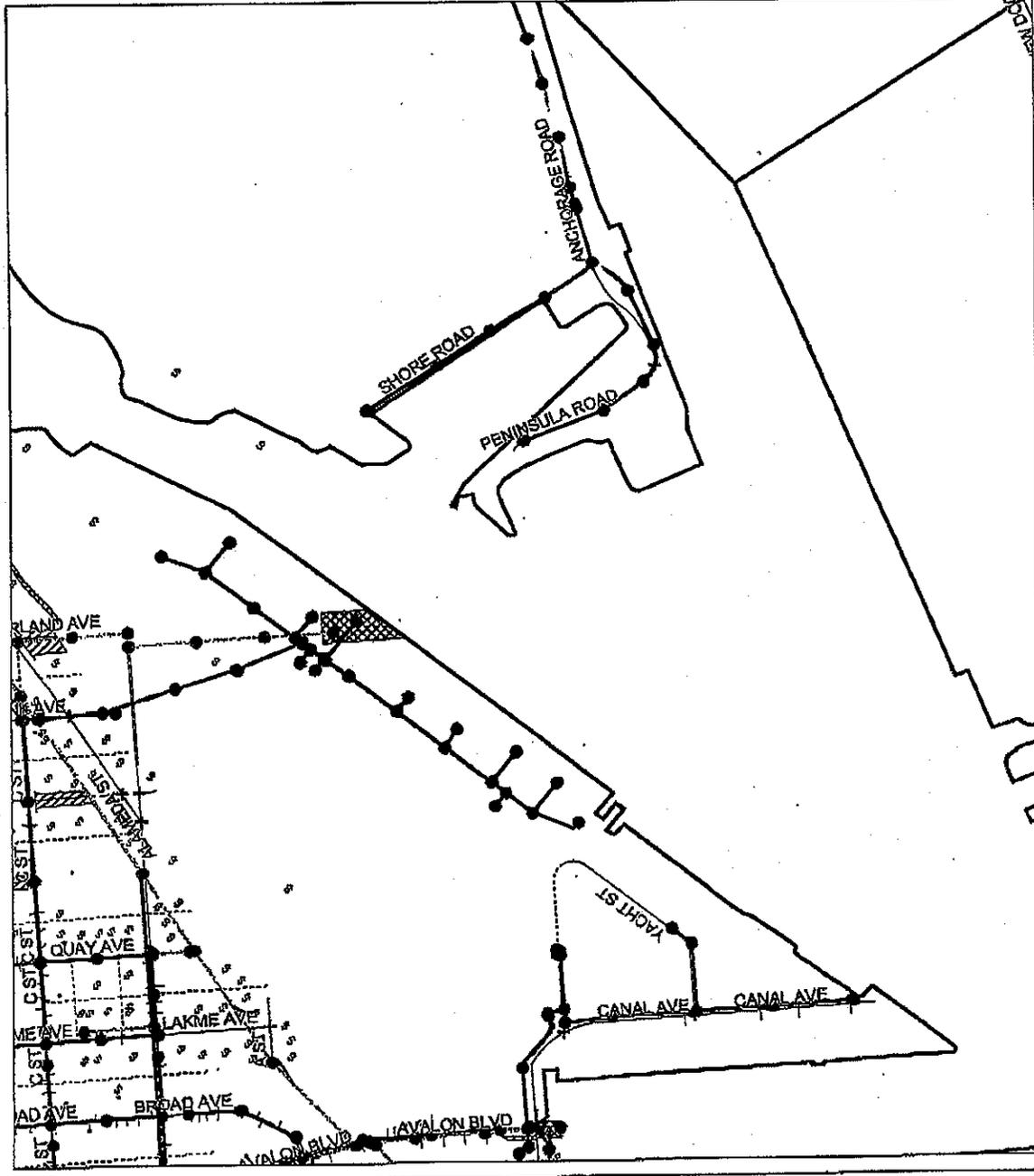
Sewer Information

- Sewer Fees**
- Sewer Structures**
- ▲ Connectivity Node
- County
- Drop maintenance hole
- Flush maintenance hole
- Flush tank
- Flushing structure
- Junction Chamber
- Junction terminal manhole
- Lamp hole
- Maintenance hole
- Private Sewer
- Siphon
- Special
- Standard Trap
- Terminal cleanout
- Terminal maintenance structure
- Weir maintenance hole
- Unknown
- Sewer Pipes**
- Abandoned
- In Service
- Sewer Casings**
- Sewer Easements**
- Sewer Laterals**
- Freeways and Streets**
- Freeways (Thomas Bros. Maps)
- Freeways
- On-ramps only
- Off-ramps only

SCALE 1 : 9,534



NavigateLA



- Sewer Information**
- Sewer Fees
 - ▲ Sewer Structures
 - ▲ Connectivity Node
 - County
 - Drop maintenance hole
 - Flush maintenance hole
 - Flush tank
 - Flushing structure
 - Junction Chamber
 - Junction terminal manhole
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- Abandoned
 - In Service
- Sewer Casings**
-
- Sewer Easements**
- ▨
- Sewer Laterals**
-
- Freeways and Streets**
- Freeways (Thomas Bros. Maps)
 - Freeways
 - On-ramps only
 - Off-ramps only

SCALE 1 : 9,534



Long Beach Generation, LLC
2665 W. Seaside Blvd
Long Beach, CA 90802

Phone: 310.615.6342
FAX: 310.615.6060

June 14, 2005

Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W 4th Street, Suite 200
Los Angeles, CA 90013

**Re: Notification of Maintenance on the Once-through Cooling System
NPDES No. CA0001171**

Dear Executive Officer:

The following is submitted by NRG El Segundo Operations Inc. on behalf of Long Beach Generation LLC, (LB-LLC), NPDES No. CA0001171. The purpose of this correspondence is to notify the Regional Board of maintenance activities on the once-through cooling system. The once-through cooling system will be shut down for repairs and the low volume waste will be discharged directly into the Long Beach Harbor through the same outfall point as permitted in the NPDES permit, "Description of Facility Operations" finding number 4. LB-LLC will maintain compliance with all monitoring requirements and with all permit limits during this maintenance period.

If you have any questions regarding this matter, please contact Alex Sanchez at (310) 615-6351.

Sincerely,
Long Beach Generation, LLC
By: El Segundo Operations Inc.
It's Authorized Agent

By: 
Gregory Hughes
Regional Plant Manager